

CALL FOR CANDIDATES: COMMON APPLICATION FOR THE MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIP (MSCA-IF) IN THE FIELD OF LIFE SCIENCES

Institute IRNAS is looking for a post-doctoral candidate (Ph.D. before 14. September 2016) to apply for the **MSCA-IF fellowship** on the topic of open-source 3D-bioprinter development.

INTRODUCTION

3D bioprinting is a rapidly developing field of research which combines cell and tissue cultivation with fabrication methods such as 3D printing. Potential applications range from algae-biosensors on microchips to patient specific organ transplants. In short, the field promises a manifold of opportunities for biological and medical research and innovation. Bioprinting was introduced in the early 2000's and is currently gathering pace, as interest has increased 5-10 fold just in the last 5 years. While commercial devices are already available, a high price and certain technological limitations still restrict the use of bioprinters to more or less high-budget research projects.

Institute IRNAS is a key player in open-hardware development with international recognition. It is home to a young team of experts from various fields such as engineering, mathematics, economics and biology, which successfully collaborate with partners from industry and academia. At IRNAS we are successfully developing low-cost and open-source technologies, ranging from optical communication systems to CNC technologies which are being built all around the World and all from standard parts, available off-the-shelf or from multiple vendors. Since spring 2016, the institute also hosts an open bio laboratory with the goal of expanding into life sciences and making research cheaper and more available to wider audiences. We pursue research and education while developing DIY laboratory equipment which will be suitable for high-end research.

Now, we wish to take a step further and combine our expertise and experience in machine development with excellent science. By open-sourcing bioprinting, our goal is to a) expand the capabilities of our bio lab in the fields of molecular and cell biology and b) make the methodology generally more available and thus aid citizen science and research in financially limited institutions.

PROJECT AND JOB DESCRIPTION

The project will be made possible by several team members at IRNAS and their cooperation partners. Overall it will be divided into two main parts, engineering and biology. The engineering part is already in its starting phase, as it is also a continuation of our **GoodEnoughCNC** series, while the biological part will be pursued by the MSCA fellow and will be divided into several milestones:

- establishing a working space, suitable for cell culture and molecular biology with open-source equipment (provided by IRNAS)
- evaluation and feedback for further development
- preparing samples/media for 3D bioprinting and adequate growth conditions
- testing & optimization of extrusion materials
- printing scaffolds for biological tissues, suitable for research purposes

In addition, the candidate will have the opportunity to take a leading role at the IRNAS bio lab, work individually and in a team while operating as a science consultant at the institute. We are looking for candidates with a **Ph.D. or equivalent** (4+ Years of research experience) before the MSCA-IF application deadline (14. September 2016) in **biological or medical sciences** with working knowledge of molecular and cell biology. The contract will be full time (40 hours per week) and temporary (24 months - time of fellowship) with the possibility of extension or change to a permanent position. The work will take place at the institutes's facilities in Maribor, Slovenia or in partner organizations (up to 6 months).

APPLICATION:

Applicants should send a **CV** with a **cover letter** to hr@irnas.eu by 21. August 2016 at the latest. Promising candidates will be additionally interviewed via skype.

NOTE: THIS IS NOT AN OPEN JOB OFFER, THE CANDIDATES WILL NEED TO APPLY FOR THE MSCA-IF FELLOWSHIP!